United States Department of Agriculture
NRCS Natural Resources Conservation Service
National Water and Climate Center

Montana State Basin Outlook Report for June, 2002

MONTANA Water Supply Outlook Report as of June 1, 2002

May provided most of Montana with near to above average mountain precipitation. Early in May there were snow storms that added good moisture to areas that had not seen this amount of precipitation all winter and were the first generalized storms seen through the winter. Temperatures were generally 2 to 4 degrees below average across most of the state, which accounted for the additional snow and later than normal snow melt. Although there were modest gains in valley moisture, continued rain is needed to combat the cumulative effects of severe drought and insure drought parched areas do not slop back from the improvements seen during May.

SNOWPACK

As of June 1, remaining mountain snow water contents were generally ranging from well above average to below average. Statewide, mountain snow water content was 117 percent of average. West of the Continental Divide, snowpack was 151 percent of average and East of the continental Divide, snowpack was 79 percent of average.

RIVER BASIN	% OF AVERAGE
COLUMBIA	151
KOOTENAI	169
FLATHEAD	153
UPPER CLARK FORK	122
BITTERROOT	125
LOWER CLARK FORK	224
MISSOURI	90
MISSOURI HEADWATERS	73
JEFFERSON	71
MADISON	72
GALLATIN	87
MISSOURI MAINSTEM	122
HEADWATERS MAINSTEM	94
SMITH-JUDITH-MUSSELSHELL	92
SUN-TETON-MARIAS	179
MAINSTEM ABOVE FT. PECK RES	130
ST. MARY	135
YELLOWSTONE	67
UPPER YELLOWSTONE	80
LOWER YELLOWSTONE (WYOMING)	50
WIND	46
SHOSHONE	62
BIGHORN	62
TONGUE	60
POWDER	10

PRECIPITATION

May mountain and valley precipitation across the state was 93 percent of average and 244 percent of last year, while the water year precipitation was 95 percent of average and 144 percent of last year.

West of the Continental Divide, May mountain and valley precipitation was 108 percent of average and 239 percent of last year and the water year precipitation was 108 percent of average and 168 percent of last year. East of the Divide, May mountain and valley precipitation was 85 percent of average and 248 percent of last year and the water year precipitation was 85 percent of average and 125 percent of last year.

RIVER BASIN	MAY % OF AVERAGE	WATER YEAR % OF AVERAGE
COLUMBIA	108	108
KOOTENAI	153	110
FLATHEAD	116	112
UPPER CLARK FORK	80	94
BITTERROOT	108	102
LOWER CLARK FORK	135	119
MISSOURI	83	84
JEFFERSON	75	81
MADISON	89	89
GALLATIN	103	86
MISSOURI MAINSTEM	76	74
SMITH-JUDITH-MUSSELSHELL	76	80
SUN-TETON-MARIAS	94	98
MILK	94	80
ST. MARY	127	115
YELLOWSTONE	85	83
UPPER YELLOWSTONE	89	89
LOWER YELLOWSTONE (WYOMING)	67	79
WIND	63	74
SHOSHONE	64	87
BIGHORN	73	79
TONGUE	58	82
POWDER	54	82

RESERVOIRS

Major reservoir storages statewide were 88 percent of average and 97 percent of last year. Reservoir storage west of the Continental Divide was 111 percent of average and 103 percent of last year. East of the Continental Divide, reservoir storages were 79 percent of average and 94 percent of last year.

RIVER BASIN	% OF AVERAGE	% OF LAST YEAR
COLUMBIA	111	103
KOOTENAI	119	102
FLATHEAD	106	104
UPPER CLARK FORK	91	105
BITTERROOT	105	96
LOWER CLARK FORK	104	107
MISSOURI	79	95
JEFFERSON	48	74
MADISON	107	97
GALLATIN	134	100
MISSOURI MAINSTEM	78	94
SMITH-JUDITH-MUSSELSHELL	27	116
SUN-TETON-MARIAS	99	108
MILK	41	180
ST. MARY	72	160
YELLOWSTONE	76	78
UPPER YELLOWSTONE	107	99
LOWER YELLOWSTONE	75	77

STREAMFLOW

SEASONAL STREAMFLOW FORECASTS

Statewide, streamflow forecasts average between 87 and 97 percent of average. West of the Continental Divide, streamflow forecasts average between 94 and 105 percent and east of the Continental Divide, streamflow forecasts average between 58 and 70 percent. Streamflow forecasts are above those of last year but June rain will be critical to insure flows above last year east of the divide. Most streams have reached their snow melt peaks for this year.

Below are averaged river basin streamflow forecast summaries for the period June 1 through July 31. THESE FORECASTS DO NOT ACCOUNT FOR WELL BELOW AVERAGE (70% or less) OR WELL ABOVE AVERAGE (130% or more) SNOWMELT OR RAIN. Specific forecast probabilities are available in each individual River Basin Report.

RIVER BASIN	JUNE-JULY THIS YEAR % OF AVERAGE	JUNE-JULY LAST YEAR % OF AVERAGE
COLUMBIA	94 to 105	26 to 31
KOOTENAI	104 to 116	36 to 41
FLATHEAD	100 to 109	27 to 33
UPPER CLARK FORK	67 to 83	25 to 29
BITTERROOT	91 to 100	20 to 24
LOWER CLARK FORK	107 to 116	21 to 27
MISSOURI	65 to 78	20 to 23
JEFFERSON	59 to 75	16 to 18
MADISON	70 to 75	33 to 35
GALLATIN	59 to 67	37 to 42
MISSOURI MAINSTEM	74 to 91	19 to 23
SMITH-JUDITH-MUSSELSHELL	47 to 60	12 to 14
SUN-TETON-MARIAS	102 to 121	16 to 19
MILK	44 to 61	12 to 14
ST. MARY	110 to 116	35 to 39
YELLOWSTONE	52 to 62	26 to 28
UPPER YELLOWSTONE	67 to 76	34 to 37
LOWER YELLOWSTONE	37 to 48	18 to 20

NOTE: The JUNE-JULY LAST YEAR % OF AVERAGE column above is last years forecasts on June 1, NOT of what actually occurred.

SNOWMELT PEAK STREAMFLOW FORECASTS

COLUMBIA RIVER	
Tobacco River near Eureka	Peaked on May 22 at 113%
Fisher River near Libby	Peaked on May 23 at 176%
Yaak River near Troy	Peaked on May 23 at 184%
North Fork Flathead River near Columbia Falls	Peaked on May 22 at 100%
Middle Fork Flathead River near West Glacier	Peaked on May 31 at 113%
Hungry Horse Reservoir inflow	Peaked on May 22
Stillwater River near Whitefish	Peaked on May 26 at 117%
Lower Willow Reservoir inflow	Peaked on May 20 at 40%
Swan River	Peaked to June 2 at 83%
Blackfoot River near Bonner	Peaked on May 31 at 95%
Clark Fork above Missoula	Peaked on June 1 at 78%
Clark Fork below Missoula	Peaked on June 1 at 94%
Bitterroot River near Darby	Peaked on May 31 at 107%
Skalkaho Creek near Hamilton	Peaked on May 31
Nevada Creek near Finn	Peaked on May 22 at 38%
Middle Fork Rock Creek	Peaked on June 2 at 91%
Thompson River near Thompson Falls	Peaked on May 23 at 201%
Prospect Creek at Thompson Falls	Peaked on May 30 at 136%
Clark Fork at St. Regis	Peaked on June 1 at 108%
MISSOURI RIVER	
Clark Canyon Reservoir inflow	Peaked on June 1 at 16%

Ruby Reservoir inflow ..... Peaked on June 2 at 71%
Big Hole below Big Lake near Wisdom ..... Peaked on June 3 at 85%
Big Hole near Melrose ..... Peaked on June 3 at 71%
Hebgen Reservoir inflow ..... Peaked on May 20 at 70%
Hyalite Reservoir inflow ..... Peaked on June 2 at 52%
Gallatin River near Gateway..... Peaked on June 2 at 95%
Gallatin River near Logan ..... Peaked on June 3 at 95%
Boulder near Boulder ..... Peaked on June 2 at 56%
Jefferson River near Three Forks ..... Peaked on June 4 at 68%
Missouri at Toston ..... Peaked on June 3 at 84%
Dearborn River near Craig ..... Peaked on May 30 at 57%
Sheep Creek near White Sulphur Springs .. Peaked on May 23
Musselshell near Harlowton ..... Peaked on June 4 at 33%
Smith River at Ft. Logan ..... Peaked on May 7
Smith River below Eagle Creek ..... Peaked on May 22
Gibson Reservoir inflow ..... Peaked on May 30 at 61%
Swift Reservoir inflow ..... June 8 to June 14
Beaver Creek near Havre ..... Peaked on April 16 at 9%
Prickly Pear near Clancy ..... Peaked on June 2 at 67%

YELLOWSTONE RIVER
Yellowstone River at Lake Outlet ..... June 3 to June 9
Yellowstone at Corwin Springs ..... Peaked on June 1 at 106%
Yellowstone at Livingston ..... Peaked on June 2 at 117%
Shields River near Livingston ..... Peaked on June 3
Boulder near Big Timber ..... Peaked on June 2 at 100%
Stillwater near Absarokee ..... Peaked on June 2 at 105%
Clarks Fork near Belfry ..... Peaked on June 2 at 128%
Yellowstone at Billings ..... Peaked on June 3 at 99%
Inflow Cooney Reservoir ..... Peaked on May 7 at 26%
Little Bighorn near Hardin ..... Peaked on June 2 at 21%
Powder River at Moorhead ..... Peaked on April 20 at 13%

Hudson Bay
Inflow to Sherburne ..... Peaked on May 30 at 110%
St. Mary River at International Boundary Peaked on June 1 at 96%

SURFACE WATER SUPPLY INDEX

The Surface Water Supply Index (SWSI) is a measure of available surface water availability for the spring and summer months. Water users that rely on mountain precipitation can use the index to evaluate seasonal surface water supplies. The SWSI accounts for mountain snowpack, mountain precipitation, streamflow, reservoir storage, and soil moisture.

SWSI RATING	SURFACE WATER CONDITION
+3.0 to +4.0	Extremely Wet
+2.0 to +3.0	Moderately Wet
+1.0 to +2.0	Slightly Wet
-1.0 to +1.0	Near Average
-1.0 to -2.0	Slightly Dry
-2.0 to -3.0	Moderately Dry
-3.0 to -4.0	Extremely Dry

SWSI	Basin
+0.9	Tobacco River
+1.6	Kootenai Ft. Steele to Libby Dam
+1.7	Kootenai River below Libby Dam
+0.6	Fisher River
+1.1	Yaak River
+0.4	North Fork Flathead River
+1.1	Middle Fork Flathead River
+1.5	South Fork Flathead River
+1.0	Flathead River at Columbia Falls
-0.7	Stillwater/Whitefish Rivers

+0.5	Swan River
+0.9	Flathead River at Polson
-2.2	Mission Valley
-0.4	Little Bitterroot River
-2.4	Clark Fork River above Milltown
+0.6	Blackfoot River
+0.6	Bitterroot River
-0.5	Clark Fork River below Bitterroot River
+0.5	Clark Fork River below Flathead River
-3.3	Beaverhead River
-1.1	Ruby River
-1.7	Big Hole River
-1.0	Boulder River (Jefferson)
-1.9	Jefferson River
-0.4	Madison River
-1.6	Gallatin River
-1.3	Missouri River above Canyon Ferry
-2.7	Missouri River below Canyon Ferry
-1.6	Smith River
+1.0	Sun River
-1.0	Teton River
-3.2	Birch/Dupuyer Creeks
+0.2	Marias River above Tiber
+0.9	Marias River below Tiber
-2.9	Musselshell River
-1.0	Missouri River above Ft. Peck
-2.0	Missouri River below Ft. Peck
-3.8	Milk River
-1.7	Dearborn River near Craig
-1.5	Yellowstone River above Livingston
-2.0	Shields River
-2.4	Boulder River (Yellowstone)
-2.7	Stillwater River
-3.2	Rock/Red Lodge Creeks
-2.4	Clarks Fork River
-2.0	Yellowstone River above Bighorn River
-3.8	Bighorn River below Bighorn Lake
-3.1	Little Bighorn River
-2.9	Yellowstone River below Bighorn River
-3.2	Tongue River
-3.1	Powder River

KOOTENAI RIVER BASIN in Montana as of June 1, 2002

Snowpack conditions in the Kootenai River Basin were well above average for this time of year. Snow water content was 169 percent of average.

Mountain precipitation during May was 146 percent of average and 248 percent of last year. Valley precipitation during May was 153 percent of average and 440 percent of last year. Mountain and valley water year precipitation, beginning October 1, 2001, was 125 percent of average and 222 percent of last year.

Lake Koocanusa storage was 119 percent of average and 102 percent of last year.

Surface Water Supply Index (SWSI) was +0.9 in the Tobacco River; +1.6 in the Kootenai Ft. Steele to Libby Dam; +1.7 in the Kootenai River below Libby Dam; +0.6 in the Fisher River; and +1.1 in the Yaak River.

KOOTENAI RIVER BASIN in Montana
Streamflow Forecasts - June 1, 2002

	<=== Drier === Future Conditions === Wetter ===>	
Forecast Pt	========== Chance of Exceeding * ==========	

Forecast Period	90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
TOBACCO RIVER nr Eureka							
JUN-JUL	54	66	75	121	84	96	62
JUN-SEP	64	79	90	118	101	116	76
LIBBY RES Inflow (1,2)							
JUN-JUL	2618	3438	3810	115	4182	5002	3310
JUN-SEP	3555	4476	4895	114	5314	6235	4310
FISHER RIVER nr Libby							
JUN-JUL	50	64	73	107	82	96	68
JUN-SEP	64	80	90	107	101	116	84
YAAK RIVER nr Troy							
JUN-JUL	127	155	175	122	195	223	144
JUN-SEP	149	179	200	121	221	251	166
KOOTENAI at Leonia (1,2)							
JUN-JUL	3720	4142	4334	114	4526	4948	3790
JUN-SEP	4780	5278	5505	113	5732	6230	4880

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

KOOTENAI RIVER BASIN in Montana
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
LAKE KOOCANUSA	5748.0	3797.0	3735.0	3193.1

KOOTENAI RIVER BASIN in Montana
Watershed Snowpack Analysis - June 1, 2002

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
KOOTENAY in CANADA	7	573	179
KOOTENAI MAINTSTEM	4	1937	191
TOBACCO	2	572	155
FISHER	1	0	0
YAAK	3	5425	151
KOOTENAI in MONTANA	9	1241	169
KOOTENAI ab BONNERS FERRY	16	783	174

□ FLATHEAD RIVER BASIN as of June 1, 2002

Snowpack conditions in the Flathead River Basin were well above average. Snow water content was 153 percent of average

Mountain precipitation during May was 115 percent of average and 280 percent of last year. Valley precipitation during May was 123 percent of average and 1035 percent of last year. Mountain and valley water year precipitation, beginning October 1, 2001, was 112 percent of average and 175 percent of last year.

Combined Camas reservoir storage was 94 percent of average and 130 percent of last year; Lower Jocko Lake was 120 percent of average and 117 percent of last year; combined Mission Valley reservoir storage was 68 percent of average and 65 percent of last year; Hungry Horse storage was 108 percent of average and 105 percent of last year; and Flathead Lake storage was 105 percent of average and 104 percent of last year.

Surface Water Supply Index (SWSI) was +0.4 in the North Fork Flathead River; +1.1 in the Middle Fork Flathead River; +1.5 in the South Fork Flathead River; +1.0 in the Flathead River at Columbia Falls; -0.7 in the Stillwater/Whitefish Rivers; +0.5 in the Swan River; +0.9 in the Flathead River at Polson; -2.2 in the Mission Valley; and -0.4 in the Little Bitterroot River.

FLATHEAD RIVER BASIN
Streamflow Forecasts - June 1, 2002

Forecast Pt / Forecast Period	<=== Drier === Future Conditions === Wetter ===> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
NF FLATHEAD nr Columbia Falls							
JUN-JUL	709	829	910	110	991	1111	830
JUN-SEP	871	1004	1095	108	1186	1319	1010
MF FLATHEAD nr West Glacier							
JUN-JUL	930	989	1030	125	1071	1130	825
JUN-SEP	1080	1149	1195	123	1241	1310	975
HUNGRY HORSE Reservoir Inflow (1,2)							
JUN-JUL	1108	1213	1260	131	1307	1412	960
JUN-SEP	1244	1351	1400	128	1449	1556	1090
FLATHEAD at Columbia Falls (2)							
JUN-JUL	2743	3066	3285	122	3504	3827	2690
JUN-SEP	3234	3571	3800	120	4029	4366	3160
STILLWATER nr Whitefish							
JUN-JUL	59	77	89	114	101	119	78
JUN-SEP	72	95	110	112	126	148	98
WHITEFISH nr Kalispell							
JUN-JUL	46	56	63	115	70	80	55
JUN-SEP	56	68	76	112	84	97	68
ASHLEY CREEK nr Marion (2)							
JUN-JUL	0.21	0.34	0.60	37	1.31	2.37	1.61
SWAN RIVER nr Bigfork							
JUN-JUL	290	308	320	105	332	350	305
JUN-SEP	375	390	400	104	410	425	385
FLATHEAD Lake Inflow (1,2)							
JUN-JUL	3289	3616	3765	121	3914	4241	3110
JUN-SEP	3728	4149	4340	120	4531	4952	3620

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

FLATHEAD RIVER BASIN
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
CAMAS (4)	45.2	29.4	22.6	31.2
LOWER JOCKO LAKE	6.4	4.2	3.6	3.5
MISSION VALLEY (8)	100.0	46.7	71.7	68.7
HUNGRY HORSE	3451.0	2786.0	2660.0	2588.0
FLATHEAD LAKE	1791.0	1570.0	1508.0	1499.2

FLATHEAD RIVER BASIN
Watershed Snowpack Analysis - June 1, 2002

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
NF FLATHEAD in CANADA	1	0	309
NF FLATHEAD in MONTANA	6	586	162
MIDDLE FORK FLATHEAD	4	442	154
SOUTH FORK FLATHEAD	2	292	112
STILLWATER-WHITEFISH	5	1465	202
SWAN	4	292	124
MISSION VALLEY	2	224	114
LITTLE BITTERROOT-ASHLEY	0	0	0
JOCKO	4	604	167
FLATHEAD in MONTANA	20	482	153
FLATHEAD RIVER BASIN	21	505	157

UPPER CLARK FORK RIVER BASIN as of June 1, 2002

Snowpack conditions in the Upper Clark Fork River Basin were above average. Snow water content was 122 percent of average.

Mountain precipitation during May was 83 percent of average and 194 percent of last year. Valley precipitation during May was 63 percent of average and 155 percent of last year. Mountain and valley water year precipitation, beginning October 1, 2001, was 94 percent of average and 129 percent of last year.

Lower Willow Creek storage was 107 percent of average and 111 percent of last year; and Nevada Creek storage was 91 percent of average and 107 percent of last year.

Surface Water Supply Index (SWSI) was -2.4 in the Clark Fork River above Milltown and +0.6 in the Blackfoot River.

UPPER CLARK FORK RIVER BASIN
Streamflow Forecasts - June 1, 2002

Forecast Pt / Forecast Period	<=== Drier === Future Conditions === Wetter ===> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
LITTLE BLACKFOOT nr Garrison							
JUN-JUL	13.0	21	26	82	32	39	32
JUN-SEP	17.4	27	33	85	40	49	39
FLINT CREEK nr Southern Cross							

JUN-JUL	2.18	4.36	5.85	76	7.34	9.52	7.70
JUN-SEP	2.7	5.7	7.7	76	9.7	12.7	10.2
FLINT CREEK blw Boulder Ck							
JUN-JUL	12.0	20	26	79	32	40	33
JUN-SEP	21	32	39	81	47	58	48
LOWER WILLOW CK RES Inflow							
JUN-JUL	0.01	1.47	2.46	57	3.45	4.91	4.30
JUN-SEP	0.68	2.30	3.40	65	4.50	6.12	5.20
MF ROCK CREEK nr Philipsburg							
JUN-JUL	29	35	39	100	43	49	39
JUN-SEP	34	41	46	98	51	58	47
ROCK CREEK nr Clinton							
JUN-JUL	69	98	118	80	138	167	148
JUN-SEP	95	128	150	82	172	205	183
CLARK FORK abv Milltown							
JUN-JUL	85	168	225	71	282	365	315
JUN-SEP	139	238	305	74	372	471	410
NEVADA CREEK nr Finn							
JUN-JUL	1.59	3.53	4.85	69	6.17	8.11	7.00
JUN-SEP	2.57	4.73	6.20	73	7.67	9.83	8.50
BLACKFOOT RIVER nr Bonner							
JUN-JUL	340	400	440	116	480	540	380
JUN-SEP	430	496	540	115	584	650	470
CLARK FORK abv Missoula							
JUN-JUL	496	597	665	96	733	834	695
JUN-SEP	653	767	845	96	923	1037	880

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

UPPER CLARK FORK RIVER BASIN
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
EAST FORK ROCK CREEK	15.6	6.0	6.4	10.5
GEORGETOWN LAKE	31.0	28.6	27.0	28.1
LOWER WILLOW CREEK	4.9	4.9	4.4	4.6
NEVADA CREEK	12.6	10.1	9.4	11.1

UPPER CLARK FORK RIVER BASIN
Watershed Snowpack Analysis - June 1, 2002

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
CLARK FORK ab FLINT CREEK	5	519	81
FLINT CREEK	4	0	30
ROCK CREEK	2	0	86
CLARK FORK ab BLACKFOOT	9	838	77
BLACKFOOT	7	727	169

UPPER CLARK FORK BASIN	16	713	122

BITTERROOT RIVER BASIN as of June 1, 2002

Snowpack conditions in the Bitterroot River Basin were above average. Snow water content was 125 percent of average.

Mountain precipitation during May was 107 percent of average and 166 percent of last year. Valley precipitation during May was 111 percent of average and 308 percent of last year. Mountain and valley water year precipitation, beginning October 1, 2001, was 102 percent of average and 153 percent of last year.

Painted Rocks Lake storage was 109 percent of average and 102 percent of last year and Como storage was 101 percent of average and 89 percent of last year.

Surface Water Supply Index (SWSI) was +0.3 in the Bitterroot River.

BITTERROOT RIVER BASIN
Streamflow Forecasts - June 1, 2002

Forecast Pt / Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	Future Conditions 50% (1000AF)	50% (% AVG.)	=== Wetter ===> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
WF BITTERROOT nr Conner (2)							
JUN-JUL	46	56	63	91	70	80	69
JUN-SEP	57	68	75	92	83	94	82
BITTERROOT nr Darby							
JUN-JUL	198	220	235	98	250	272	240
JUN-SEP	262	290	308	104	326	354	295
COMO RESERVOIR Inflow							
JUN-JUL	30	39	45	113	51	60	40
JUN-SEP	33	43	49	111	55	65	44
SKALKAHO CK nr Hamilton							
JUN-JUL	21	25	27	100	29	33	27
JUN-SEP	27	31	34	103	37	41	33
BITTERROOT at Missoula							
JUN-JUL	571	642	690	100	738	809	690
JUN-SEP	696	776	830	104	884	964	800

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

BITTERROOT RIVER BASIN
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
PAINTED ROCKS LAKE	31.7	33.2	32.4	30.5
COMO	34.9	29.2	32.8	28.9

BITTERROOT RIVER BASIN
Watershed Snowpack Analysis - June 1, 2002

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
WEST FORK BITTERROOT	2	0	95
EAST SIDE BITTERROOT	3	0	96
WEST SIDE BITTERROOT	3	0	158
BITTERROOT RIVER BASIN	7	0	125

LOWER CLARK FORK RIVER BASIN as of June 1, 2002

Snowpack conditions in the Lower Clark Fork River Basin were well above average. Snow water content was 224 percent of average.

Mountain precipitation during May was 140 percent of average and 239 percent of last year. Valley precipitation during May was 118 percent of average and 228 percent of last year. Mountain and valley water year precipitation, beginning October 1, 2001, was 119 percent of average and 194 percent of last year.

Noxon Rapids storage was 104 percent of average and 107 percent of last year.

Surface Water Supply Index (SWSI) was -0.5 in the Clark Fork River below Bitterroot River and +0.5 in the Clark Fork River below Flathead River.

LOWER CLARK FORK RIVER BASIN
Streamflow Forecasts - June 1, 2002

Forecast Pt / Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	Future Conditions 50% (1000AF)	50% (% AVG.)	=== Wetter ===> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
CLARK FORK blw Missoula							
JUN-JUL	1100	1252	1355	98	1458	1610	1380
JUN-SEP	1388	1559	1675	100	1791	1962	1680
CLARK FORK at St. Regis (1)							
JUN-JUL	1171	1569	1750	99	1931	2329	1770
JUN-SEP	1523	1971	2175	101	2379	2827	2160
CLARK FORK nr Plains (1,2)							
JUN-JUL	4401	5308	5720	112	6132	7039	5090
JUN-SEP	5342	6352	6810	112	7268	8278	6080
THOMPSON nr Thompson Falls							
JUN-JUL	64	78	88	107	98	112	82
JUN-SEP	87	104	115	107	126	143	108
PROSPECT CREEK at Thompson Falls							
JUN-JUL	52	55	58	142	61	64	41
JUN-SEP	62	66	69	138	72	76	50
CLARK FK at Whitehorse Rpds (1,2)							
JUN-JUL	4767	5797	6265	105	6733	7763	5984
JUN-SEP	5838	6988	7510	105	8032	9182	7166

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

LOWER CLARK FORK RIVER BASIN
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
NOXON RAPIDS	335.0	327.4	306.8	313.6

LOWER CLARK FORK RIVER BASIN
Watershed Snowpack Analysis - June 1, 2002

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
LOWER CLARK FORK BASIN	7	1301	224

JEFFERSON RIVER BASIN as of June 1, 2002

Snowpack conditions in the Jefferson River Basin were below average. Snow water content was 71 percent of average.

Mountain precipitation during May was 80 percent of average and 219 percent of last year. Valley precipitation during May was 54 percent of average and 165 percent of last year. Mountain and valley water year precipitation, beginning October 1, 2001, was 81 percent of average and 111 percent of last year.

Lima storage was 42 percent of average and 75 percent of last year; Clark Canyon storage was 44 percent of average and 71 percent of last year; and Ruby River storage was 74 percent of average and 83 percent of last year.

Surface Water Supply Index (SWSI) was -3.3 in the Beaverhead River; -1.1 in the Ruby River; -1.7 in the Big Hole River; -1.0 in the Boulder River; and -1.9 in the Jefferson River as a whole.

JEFFERSON RIVER BASIN
Streamflow Forecasts - June 1, 2002

Forecast Pt / Forecast Period	<=== Drier === Future Conditions === Wetter ===> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
LIMA RESERVOIR Inflow (2)							
JUN-JUL	10.7	23	32	82	41	53	39
JUN-SEP	13.7	29	39	83	49	64	47
CLARK CANYON Inflow (2)							
JUN-JUL	1.9	21	34	67	47	66	51
JUN-SEP	7.3	34	52	68	70	97	76
BEAVERHEAD RIVER at Barretts (2)							
JUN-JUL	33	43	50	70	57	67	71
JUN-SEP	56	70	80	78	90	104	103

RUBY RIVER Reservoir Inflow							
JUN-JUL	26	32	36	78	40	46	46
JUN-SEP	41	46	50	81	54	59	62
BIG HOLE RIVER at Wisdom							
JUN-JUL	3.1	27	43	75	59	83	57
JUN-SEP	5.8	32	50	77	68	94	65
BIG HOLE RIVER nr Melrose							
JUN-JUL	210	243	265	82	287	320	325
JUN-SEP	255	291	315	83	339	375	380
BOULDER RIVER nr Boulder							
JUN-JUL	12.5	23	30	83	37	48	36
JUN-SEP	10.4	26	36	84	46	62	43
WILLOW CREEK Reservoir Inflow							
JUN-JUL	3.0	4.5	5.5	51	6.5	8.0	10.8
JUN-SEP	4.0	5.5	6.6	50	7.7	9.2	13.1
JEFFERSON RIVER nr Three Forks (2)							
JUN-JUL	183	262	315	85	368	447	370
JUN-SEP	207	316	390	87	464	573	450

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

JEFFERSON RIVER BASIN
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	********** Usable Storage ********* This Year	Last Year	Average
LIMA	84.0	27.6	36.6	65.8
CLARK CANYON	255.6	70.8	99.6	161.2
RUBY RIVER	38.8	28.1	33.8	37.9

JEFFERSON RIVER BASIN
Watershed Snowpack Analysis - June 1, 2002

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
BEAVERHEAD	8	438	64
RUBY	4	0	67
BIGHOLE	8	691	81
BOULDER	3	486	62
JEFFERSON RIVER BASIN	18	929	71

MADISON RIVER BASIN as of June 1, 2002

Snowpack conditions in the Madison River Basin were below average. Snow water content was 72 percent of average.

Mountain and valley precipitation during May was 89 percent of average and 188 percent of last year. Mountain and valley water year precipitation, beginning October 1, 2001, was 89 percent of average and 130 percent of

last year.
Ennis Lake storage was 107 percent of average and 103 percent of last year and Hebgen Lake storage was 107 percent of average and 97 percent of last year.

Surface Water Supply Index (SWSI) was -0.4 for the Madison River.

MADISON RIVER BASIN
Streamflow Forecasts - June 1, 2002

	<=== Drier ===	Future	Conditions	=== Wetter ===>		
Forecast Pt	========== Chance of Exceeding * ==========					
Forecast Period	90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
HEBGEN Reservoir Inflow							
JUN-JUL	128	144	155	78	166	182	200
JUN-SEP	221	238	250	81	262	279	310
ENNIS Reservoir Inflow (2)							
JUN-JUL	220	250	270	72	290	320	375
JUN-SEP	369	399	420	78	441	471	540

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

MADISON RIVER BASIN
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	********** Usable Storage ********* This Year	Last Year	Average
ENNIS LAKE	41.0	37.7	36.6	35.3
HEBGEN LAKE	377.5	338.0	349.1	314.7

MADISON RIVER BASIN
Watershed Snowpack Analysis - June 1, 2002

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
MADISON abv HEBGEN LAKE	4	0	72
MADISON blw HEBGEN LAKE	6	0	72
MADISON RIVER BASIN	10	0	72

GALLATIN RIVER BASIN as of June 1, 2002

Snowpack conditions in the Gallatin River Basin were below average. Snow water content was 87 percent of average.

Mountain precipitation during May was 102 percent of average and 274 percent of last year. Valley precipitation during May was 123 percent of average and 749 percent of last year. Mountain and valley water year precipitation, beginning October 1, 2001, was 86 percent of average and 130 percent of last year.

Middle Creek storage was 134 percent of average and 100 percent of last year.

Surface Water Supply Index (SWSI) was -1.6 for the Gallatin River.

GALLATIN RIVER BASIN
Streamflow Forecasts - June 1, 2002

Forecast Pt / Period	<=== Drier === 90% (1000AF)	70% (1000AF)	Future Conditions === 50% (1000AF)	50% (% AVG.)	=== Wetter ===> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
GALLATIN RIVER nr Gateway							
JUN-JUL	133	170	195	68	220	257	285
JUN-SEP	162	211	245	68	279	328	360
HYALITE RESERVOIR Inflow							
JUN-JUL	7.2	8.9	10.0	67	11.1	12.8	14.9
JUN-SEP	9.2	10.9	12.0	67	13.1	14.8	18.0
HYALITE CREEK nr Bozeman (2)							
JUN-JUL	9.2	11.5	13.0	65	14.5	16.8	20
JUN-SEP	13.0	15.4	17.0	65	18.6	21	26
GALLATIN RIVER at Logan (2)							
JUN-JUL	123	160	185	66	210	247	280
JUN-SEP	162	208	240	67	272	318	360

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

GALLATIN RIVER BASIN
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	********** Usable Storage ********* This Year	Last Year	Average
MIDDLE CREEK	10.2	10.2	10.2	7.6

GALLATIN RIVER BASIN
Watershed Snowpack Analysis - June 1, 2002

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
UPPER GALLATIN	3	0	76
HYALITE	2	884	80
BRIDGER	2	0	212
GALLATIN RIVER BASIN	7	3247	87

☐ MISSOURI MAINSTEM RIVER BASIN as of June 1, 2002

Snowpack conditions in the Headwaters Missouri Mainstem River Basin were below average. Snow water content was 94 percent of average.

Mountain precipitation during May was 96 percent of average and 310 percent of last year. Valley precipitation during May was 66 percent of average and 245 percent of last year. Mountain and valley water year precipitation, beginning October 1, 2001, was 74 percent of average and 104 percent of last year.

Canyon Ferry Lake storage was 89 percent of average and 94 percent of last year; Helena Valley storage was 116 percent of average and 102 percent of last year; Lake Helena storage was 76 percent of average and 98 percent of last year; Hauser & Helena storage was 102 percent of average and 82 percent of last year; Holter Lake storage was 101 percent of average and 99 percent of last year; and Fort Peck Lake storage was 77 percent of average and 94 percent of last year.

Surface Water Supply Index (SWSI) was -1.3 in the Missouri River above Canyon Ferry; -2.7 in the Missouri River below Canyon Ferry; -1.0 in the Missouri River above Fort Peck; and -2.0 in the Missouri River below Fort Peck.

MISSOURI MAINSTEM RIVER BASIN
Streamflow Forecasts - June 1, 2002

Forecast Pt / Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	Future Conditions — Chance of Exceeding * — 50% (1000AF)	50% (% AVG.)	=== Wetter ===> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
MISSOURI RIVER at Toston (2)							
JUN-JUL	508	643	735	67	827	962	1090
JUN-SEP	755	901	997	70	1093	1239	1420
PRICKLY PEAR CREEK nr Clancy							
JUN-JUL	4.3	6.3	7.6	75	8.9	10.9	10.2
JUN-SEP	3.6	7.5	10.2	72	12.9	16.8	14.1
DEARBORN nr Craig							
JUN-JUL	7.4	35	53	84	75	107	63
JUN-SEP	10.9	39	58	87	80	112	67
MISSOURI RIVER at Fort Benton (2)							
JUN-JUL	948	1090	1175	74	1264	1390	1580
JUN-SEP	1443	1578	1668	77	1758	1893	2170
MISSOURI RIVER at Virgelle (2)							
JUN-JUL	1110	1201	1250	69	1383	1583	1820
JUN-SEP	1616	1700	1756	72	1887	2083	2430
MISSOURI RIVER nr Landusky (2)							
JUN-JUL	1215	1315	1375	71	1525	1745	1950
JUN-SEP	1778	1870	1932	74	2076	2292	2610
MISSOURI RIVER below Fort Peck (2)							
JUN-JUL	1145	1250	1315	67	1465	1695	1960
JUN-SEP	1568	1665	1729	68	1879	2105	2550
LAKE SAKAKAWEA Inflow (2)							
JUN-JUL	2729	3400	3800	66	4475	5400	5800
JUN-SEP	3678	4318	4743	66	5413	6418	7240

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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(2) - The value is natural volume - actual volume may be affected by

upstream water management.

MISSOURI MAINSTEM RIVER BASIN
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
CANYON FERRY LAKE	2043.0	1469.0	1568.0	1656.7
HELENA VALLEY	9.2	8.9	8.7	7.7
LAKE HELENA	10.4	10.9	11.1	14.4
HAUSER & HELENA	61.9	64.0	77.7	62.6
HOLTER LAKE	81.9	80.2	80.7	79.8
FORT PECK LAKE	18910.0	11940.0	12700.0	15495.0

MISSOURI MAINSTEM RIVER BASIN
Watershed Snowpack Analysis - June 1, 2002

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
HEADWATERS MAINSTEM	5	1133	94
SMITH-JUDITH-MUSSELSHELL	9	0	92
SUN-TETON-MARIAS	6	822	179
MAINSTEM ab FT PECK RES	19	1023	130
MILK RIVER BASIN	4	0	0
MISSOURI MAINSTEM BASIN	22	881	122

SMITH-JUDITH-MUSSELSHELL RIVER BASINS as of June 1, 2002

Snowpack conditions in the Smith-Judith-Musselshell River Basins were below average. Snow water content was 92 percent.

Mountain and valley precipitation during May in the Smith-Belts was 81 percent of average and 215 percent of last year; in the Judith was 76 percent of average and 273 percent of last year; and in the Musselshell was 71 percent of average and 284 percent of last year. Mountain and valley water year precipitation, beginning October 1, 2001, was 80 percent of average and 121 percent of last year.

Smith River storage was 43 percent of average and 110 percent of last year; Bair storage was 58 percent of average and 179 percent of last year; Martinsdale storage was 7 percent of average and 68 percent of last year; and Deadman's Basin was 27 percent of average and 116 percent of last year.

Surface Water Supply Index (SWSI) was -1.6 in the Smith River and -2.8 in the Musselshell River.

SMITH-JUDITH-MUSSELSHELL RIVER BASINS
Streamflow Forecasts - June 1, 2002

Forecast Pt / Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	Future Conditions 50% (1000AF)	50% (% AVG.)	=== Wetter ===> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
SHEEP CREEK nr White Sulphur Spgs.							
JUN-JUL	4.14	5.54	6.50	71	7.46	8.86	9.10
JUN-SEP	6.5	8.0	9.0	74	10.0	11.5	12.1
SMITH RIVER abv Eagle Creek							
JUN-JUL	47	61	70	78	79	93	90

JUN-SEP	37	69	90	72	111	143	125
NF MUSSELSHELL nr Delpine							
JUN-JUL	1.05	1.44	1.70	74	1.96	2.35	2.30
JUN-SEP	1.71	2.12	2.40	75	2.68	3.09	3.20
SF MUSSELSHELL abv Martinsdale							
JUN-JUL	1.3	8.9	14.0	56	19.1	27	25
JUN-SEP	4.2	11.8	17.0	59	22	30	29
MUSSELSHELL at Harlowton (2)							
JUN-JUL	4.0	13.5	20	54	27	36	37
JUN-SEP	5.7	15.4	22	54	29	38	41
MUSSELSHELL nr Roundup (2)							
JUN-JUL	3.6	9.2	13.0	28	27	47	47
JUN-SEP	4.5	10.1	14.0	28	28	48	50

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

SMITH-JUDITH-MUSSELSHELL RIVER BASINS
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
SMITH RIVER	10.6	4.4	4.0	10.2
BAIR	7.0	3.4	1.9	5.9
MARTINSDALE	23.1	1.3	1.9	18.2
DEADMAN'S BASIN	72.2	15.8	13.6	57.6

SMITH-JUDITH-MUSSELSHELL RIVER BASINS
Watershed Snowpack Analysis - June 1, 2002

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
SMITH	6	0	100
JUDITH	4	0	85
MUSSELSHELL	2	0	0
SMITH-JUDITH-MUSSELSHELL	9	0	92

SUN-TETON-MARIAS RIVER BASINS as of June 1, 2002

Snowpack conditions in the Sun-Teton-Marias River Basins were well above average. Snow water content was 179 percent of average

Mountain and valley precipitation during May in the Sun was 62 percent of average and 416 percent of last year; in the Teton was 96 percent of average and 333 percent of last year; and in the Marias was 104 percent of average and 403 percent of last year. Mountain and valley water year precipitation, beginning October 1, 2001, was 98 percent of average and 146 percent of last year.

Gibson storage was 94 percent of average and 108 percent of last year; Pishkun storage was 96 percent of average and 105 percent of last year; Willow Creek storage was 91 percent of average and 108 percent of last

year; Lower Two Medicine Lake storage was 84 percent of average and 82 percent of last year; Four Horns Lake storage was 86 percent of average and 92 percent of last year; Swift storage was 57 percent of average and 85 percent of last year; Lake Frances storage was 56 percent of average and 175 percent of last year; and Lake Elwell (Tiber) storage was 107 percent of average and 107 percent of last year.

Surface Water Supply Index (SWSI) was +1.0 in the Sun River; -1.0 in the Teton River; -3.2 in the Birch/Dupuyer Creeks; and +0.2 in the Marias River above Tiber and +0.9 in the Marias below Tiber.

SUN-TETON-MARIAS RIVER BASINS
Streamflow Forecasts - June 1, 2002

Forecast Pt / Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	Future Conditions 50% (1000AF)	50% (% AVG.)	=== Wetter ===> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
GIBSON Reservoir Inflow							
JUN-JUL	255	288	310	122	332	365	255
JUN-SEP	302	337	360	118	383	418	305
TWO MEDICINE RIVER nr Browning							
JUN-JUL	109	125	136	143	147	163	95
JUN-SEP	123	139	150	140	161	177	107
BADGER CREEK nr Browning (2)							
JUN-JUL	59	65	70	132	75	81	53
JUN-SEP	76	83	87	126	92	98	69
SWIFT RESERVOIR Inflow							
JUN-JUL	35	39	42	120	45	49	35
JUN-SEP	48	52	55	117	58	62	47
DUPUYER CREEK nr Valier							
JUN-JUL	2.08	3.92	8.00	123	11.32	16.20	6.50
JUN-SEP	2.74	5.59	10.00	121	13.65	19.01	8.30
CUT BANK CREEK at Cut Bank							
JUN-JUL	44	48	51	121	54	58	42
JUN-SEP	53	58	61	120	64	69	51
MARIAS RIVER nr Shelby (2)							
JUN-JUL	138	202	245	134	288	352	183
JUN-SEP	173	234	275	131	316	377	210
TETON nr Dutton							
JUN-JUL	7.2	14.2	19.0	70	24	31	27
JUN-SEP	13.2	20	25	71	30	37	35

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

SUN-TETON-MARIAS RIVER BASINS
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	********** Usable Storage ********* This Year	Last Year	Average

GIBSON	99.1	84.0	77.7	89.2
PISHKUN	32.0	29.1	27.7	30.3
WILLOW CREEK	32.2	25.6	23.6	28.0
LOWER TWO MEDICINE LAKE	11.9	10.3	12.5	12.3
FOUR HORNS LAKE	19.2	10.9	11.8	12.7
SWIFT	30.0	13.4	15.7	23.5
LAKE FRANCES	112.0	47.3	27.0	83.9
LAKE ELWELL (TIBER)	1347.0	790.4	742.1	737.7

SUN-TETON-MARIAS RIVER BASINS
Watershed Snowpack Analysis - June 1, 2002

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
SUN	2	0	196
TETON	3	0	192
MARIAS	3	600	175
SUN-TETON-MARIAS	6	822	179

□ ST. MARY and MILK RIVER BASINS as of June 1, 2002

Snowpack conditions in the St. Mary were well above average. Snow water content was 135 percent of average.

Mountain and valley precipitation in the St. Mary River Basin during May was 127 percent of average and 431 percent of last year; and in the Milk River Basin during May was 94 percent of average and 360 percent of last year. Mountain and valley water year precipitation, beginning October 1, 2001, was 98 percent of average and 177 percent of last year.

Lake Sherburne storage was 72 percent of average and 160 percent of last year; Fresno storage was 33 percent of average and 220 percent of last year; Beaver Creek storage was 97 percent of average and 126 percent of last year; and Nelson storage was 51 percent of average and 152 percent of last year.

Surface Water Supply Index (SWSI) was -3.8 for the Milk River.

ST. MARY and MILK RIVER BASINS
Streamflow Forecasts - June 1, 2002

Forecast Pt / Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	Future Conditions 50% (1000AF)	50% (% AVG.)	=== Wetter ===> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
	Chance of Exceeding *						
LAKE SHERBURNE Inflow							
JUN-JUL	60	66	70	115	74	80	61
JUN-SEP	74	85	92	118	99	110	78
ST. MARY RIVER nr Babb (2)							
JUN-JUL	243	262	275	110	288	307	250
JUN-SEP	313	332	345	110	358	377	315
ST. MARY RIVER at US/CAN Border (2)							
JUN-JUL	291	313	328	124	343	365	265
JUN-SEP	358	380	395	115	410	432	345
MILK RIVER @ Western Crossing (3)							
JUN-JUL	1.14	5.32	8.10	85	8.70	9.59	9.50
JUN-SEP	2.4	6.4	9.1	81	10.1	11.5	11.3

MILK RIVER @ Milk River, AB (2,3)							
JUN-JUL	5.0	9.5	12.5	72	14.3	16.9	17.4
JUN-SEP	6.8	12.7	16.7	78	18.6	21	21
MILK RIVER @ Eastern Crossing(2,3)							
JUN-JUL	4.7	10.2	13.8	71	15.7	18.5	19.5
JUN-SEP	8.1	14.6	18.9	65	23	29	29
BEAVER CREEK near Havre							
JUN-JUL	0.25	0.43	0.55	14	1.49	2.87	4.00

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.
(3) - Produced with the cooperation of Alberta Environment Water Supply Forecast Center

ST. MARY and MILK RIVER BASINS
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	********** Usable Storage ********* This Year	Last Year	Average
LAKE SHERBURNE	64.3	23.1	14.4	32.0
FRESNO	127.0	27.9	12.7	83.5
BEAVER CREEK	3.5	2.9	2.3	3.0
NELSON	66.8	20.8	13.7	40.6

ST. MARY and MILK RIVER BASINS
Watershed Snowpack Analysis - June 1, 2002

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
ST. MARY	2	343	135
BEARPAW MOUNTAINS	4	0	0
CYPRESS HILLS, CANADA	0	0	0
MILK RIVER BASIN	4	0	0
ST. MARY & MILK BASINS	6	343	132

UPPER YELLOWSTONE RIVER BASIN as of June 1, 2002

Snowpack conditions in the Upper Yellowstone River Basin were below average. Snow water content was 80 percent of average.

Mountain precipitation during May was 89 percent of average and 144 percent of last year. Valley precipitation during May was 88 percent of average and 374 percent of last year. Mountain and valley water year precipitation, beginning October 1, 2001, was 89 percent of average and 131 percent of last year.

Mystic Lake storage was 95 percent of average and 64 percent of last year and Cooney storage was 110 percent of average and 112 percent of last year.

Surface Water Supply Index (SWSI) was -1.5 in the Yellowstone River above Livingston; -2.0 in the Shields River; -2.4 in the Boulder River; -2.7 in the Stillwater River; -3.2 in the Rock/Red lodge Creeks; -2.4 in the Clarks Fork River; and -2.0 in the Yellowstone River above Bighorn River.

UPPER YELLOWSTONE RIVER BASIN
Streamflow Forecasts - June 1, 2002

Forecast Pt / Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	Future Conditions === 50% (1000AF)	50% (% AVG.)	Wetter ===> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
YELLOWSTONE at Lake Outlet							
JUN-JUL	277	341	385	79	429	493	485
JUN-SEP	447	517	565	81	613	683	695
YELLOWSTONE RIVER at Corwin Springs							
JUN-JUL	664	808	905	79	1002	1146	1140
JUN-SEP	879	1052	1170	80	1288	1461	1460
YELLOWSTONE RIVER near Livingston							
JUN-JUL	736	920	1045	80	1170	1354	1310
JUN-SEP	947	1193	1360	80	1527	1773	1700
SHIELDS RIVER nr Livingston							
JUN-JUL	13.9	33	46	67	65	94	69
JUN-SEP	17.9	39	54	63	77	111	86
BOULDER RIVER at Big Timber							
JUN-JUL	164	184	198	97	212	232	205
JUN-SEP	178	198	212	92	226	246	230
MYSTIC LAKE Reservoir Inflow (2)							
JUN-JUL	39	42	44	92	46	49	48
JUN-SEP	55	58	60	91	62	65	66
STILLWATER RIVER nr Absarokee (2)							
JUN-JUL	224	251	270	74	289	316	365
JUN-SEP	294	321	340	74	359	386	460
CLARKS FORK RIVER nr Belfry							
JUN-JUL	240	273	295	76	317	350	390
JUN-SEP	275	308	330	74	352	385	445
COONEY RESERVOIR Inflow (2)							
JUN-JUL	2.6	5.4	7.3	32	13.2	22	23
JUN-SEP	8.5	12.5	15.3	45	21	31	34
YELLOWSTONE RIVER at Billings (2)							
JUN-JUL	1471	1744	1930	81	2116	2389	2380
JUN-SEP	1824	2214	2450	82	2686	3076	2990

Chance of Exceeding *

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

UPPER YELLOWSTONE RIVER BASIN
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
MYSTIC LAKE	21.0	5.4	8.4	5.7
COONEY	27.4	23.6	21.0	21.5

UPPER YELLOWSTONE RIVER BASIN
Watershed Snowpack Analysis - June 1, 2002

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
YELLOWSTONE ab LIVINGSTON	11	998	79
SHIELDS	4	0	103
BOULDER-STILLWATER	3	0	89
RED LODGE-ROCK CREEK	1	0	46
CLARK'S FORK	7	1385	80
UPPER YELLOWSTONE BASIN	22	1711	80

LOWER YELLOWSTONE RIVER BASIN as of June 1, 2002

Snowpack conditions in the Lower Yellowstone River Basin, in Wyoming, were well below average. Snow water content was 50 percent of average.

Mountain and valley precipitation during May was 64 percent of average and 140 percent of last year. Mountain and valley water year precipitation, beginning October 1, 2001, was 79 percent of average and 122 percent of last year.

Bighorn Lake storage was 74 percent of average and 76 percent of last year and Tongue River storage was 84 percent of average and 89 percent of last year.

Surface Water Supply Index (SWSI) was -3.8 in the Bighorn River below Bighorn Lake; -3.1 in the Little Bighorn River; -2.9 in the Yellowstone River below Bighorn River; -3.2 in the Tongue River; and -3.1 in the Powder River.

LOWER YELLOWSTONE RIVER BASIN
Streamflow Forecasts - June 1, 2002

Forecast Pt / Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	Future Conditions Chance of Exceeding * 50% (1000AF)	50% (% AVG.)	=== Wetter ===> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
BIGHORN RIVER nr St. Xavier (2)							
JUN-JUL	251	408	515	47	622	779	1090
JUN-SEP	218	419	555	45	691	892	1240
LITTLE BIGHORN RIVER nr Hardin							
JUN-JUL	13.2	22	28	42	34	43	67
JUN-SEP	19.2	30	38	46	46	57	83
TONGUE RIVER RESERVOIR Inflow (2)							
JUN-JUL	23	32	54	43	76	108	126
JUN-SEP	31	51	75	49	99	134	153
YELLOWSTONE RIVER at Miles City (2)							
JUN-JUL	1368	2012	2450	68	2888	3532	3600
JUN-SEP	2132	2351	2906	65	3461	3992	4450
POWDER RIVER at Moorehead							
JUN-JUL	16.0	32	42	40	68	107	105
JUN-SEP	27	45	57	45	84	124	128
POWDER RIVER near Locate							

JUN-JUL	17.0	28	36	31	61	97	116
JUN-SEP	22	40	53	38	86	135	141
YELLOWSTONE RIVER nr Sidney (2)							
JUN-JUL	916	1850	2485	68	3120	4054	3650
JUN-SEP	2037	2143	2920	66	3697	4187	4460

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

LOWER YELLOWSTONE RIVER BASIN
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	********** Usable Storage ********* This Year	Last Year	Average
BIGHORN LAKE	1356.0	642.2	839.7	867.1
TONGUE RIVER	79.1	40.4	45.2	48.0

LOWER YELLOWSTONE RIVER BASIN
Watershed Snowpack Analysis - June 1, 2002

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
WIND RIVER (Wyoming)	12	0	34
SHOSHONE RIVER (Wyoming)	6	3808	62
BIGHORN RIVER (Wyoming)	16	3473	62
LITTLE BIGHORN (Wyoming)	2	1240	64
TONGUE RIVER (Wyoming)	7	0	60
POWDER RIVER (Wyoming)	6	0	10
LOWER YELLOWSTONE BASIN (Wyo	31	4455	50

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